Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 195 (2015) 1793 – 1797

Procedia
Social and Behavioral Sciences

World Conference on Technology, Innovation and Entrepreneurship

Utilization of Educational Technology to Enhance Teaching Practices: Case Study of Community College in Malaysia

Mastura Azlim[a], Melor Amran[b], Mohd Ruhaizad Rusli[b]*

[a]*Universiti Teknikal Malaysia Melaka, Durian Tunggal, Malaysia*
[b]*Kolej Komuniti Selandar, Selandar, Malaysia*

Abstract

This study was conducted to explore the barriers in utilizing educational technology among lecturers in their teaching practices in a community college in Malaysia. Moreover, this study also aims to identify lecturer's perception towards the usage of the educational technology. Barriers that have been identified can be categorized into lecturers' computer self-efficacy; accessibility of the educational technology; technical support in utilizing the educational technology; and support from administration. A structured questionnaire was distributed to all lecturers in the institution and 72% from the lecturers agreed to participate as respondents. The result from this study found that the lecturers in the community college have positive perceptions that educational technology enhances their teaching practices and students' performance. Ranks of the barriers from the higher mean score that have been identified are technical support, administrator support, computer self-efficacy and accessibility. Analysis found that lecturers of the community college are ready to utilize the educational technology in their teaching practice. However, the technical supports need to be enhancing Internet and computer facilities. Institution also recommended to provide more training for lecturers to sharpened their teaching skills by utilizing the educational technology.

Peer-review under responsibility of Istanbul Univeristy.

Keywords: educational technology; community college; utilization; teaching practices

1. Introduction

The role of community college as one of the technical and vocational in education and training (TVET) institution keep on changing throughout the emergence of technology (Raihan & Shamim, 2013). These colleges provide training and skills to the local community through short term part-time courses. Todays, TVET has evolve rapidly in line with the progress of the technology in nowadays' world. Educational technology also has been increasingly used in TVET areas. Additionally, the uses of educational technology get a strong push from nation so that the learning process will be more effective and eventually would increase economic of Malaysia (Luaran, 2011). Furthermore, the technology also changes the whole learning model in this century.

In community colleges, students' performances are not only assessed by their cognitive skills but also their practical skills and attitude. Besides, educational technology can provides considerable support for instructors to deliver the lesson, to manage

* Corresponding author. Tel.: +6-017-9097342.
E-mail address: masturazlim86@gmail.com

Peer-review under responsibility of Istanbul Univeristy.
doi:10.1016/j.sbspro.2015.06.385

learning activities and to evaluate the students' performance. Besides, educational technology has the ability to provide the flexibility for lifelong learning that able to meet students need without the time and space barriers (Chinien, 2003). Moreover, the utilization of educational technology can enhance students' performance in the learning and teaching practices (Ali, A.Haolader, & Muhammad, 2013).

2. Related works

Educational technology has been used to help in improving and enhancing students learning (Moeller & Reitzer, 2011; Mohamad, 2014). More than that, educational technology is also used to facilitate lecturers to organize their teaching sessions. This technology can be utilized from the planning stage until the assessment stage. Moreover, application of educational technology in learning also helps to improve students' participation.

Generally, educational technology that has been used to enhance students learning can be categorized into asynchronous and synchronous. Synchronous online educational technology facilities are much similar with offline educational technology where instructors and peers are present in the learning process but virtually. Whereas asynchronous online educational technology facilities are not by the time and place constrain for instructors and students interaction. They are free to communicate without the need to respond spontaneously.

Online educational technology involves virtual interaction and communication such as email, chat room, file sharing and video conference (Arnett, 2013). These facilities provide students possibility to learn with greater control of time and place for learning purposes (Dzakaria, 2012). Hence, students are able to interact, communicate and collaborate with learning materials, classmate and lecturers without time and place constraint. Synchronous educational technology such as instant messaging and Skype allow for real time discussion where questions can be answered immediately (Dawley, 2007). However, students might need to stay online until the end of the discussion, which is time consuming. In contrast, asynchronous educational technology, such as discussion forum and voice thread, provide students with more independent critical thinking space

Although there are some lecturers still not confident to approach their students with educational technology as they are afraid that the technology would leave a negative impact on exam results. Kalinga (2008) also added that the inadequacy in qualified lecturers because of lacking training in using educational technology has become one of the barriers in the implementation of technology in educational institution. Other factors that have been identified as the factors in utilizing the educational technology in teaching practices are lecturers' attitudes towards utilizing educational technology in their teaching practices; lecturers' computer self-efficacy; gender of lecturers; their teaching experience; accessibility of the educational technology; technical support in utilizing the educational technology; technology characteristics; and support from administration (Ali et al., 2013).

3. Methodology

3.1. Research Goal

In this study, authors aim to explore lecturers perception about educational technology implementation and the factors that influencing lecturers in utilizing educational technology in their teaching practices. A field survey using structured questionnaire was conducted in order to achieve the goal of this research.

3.2. Sample and Data Collection

In this study, the population is lecturers of a community college in Malaysia. A total of 39 respondents had participated out of 54 lecturers. The survey has been divided into two sections which are Section A: Demographic respondent and Section B: Factors that influence the lecturers' utilization of educational technology in their teaching practices. Section B is divided further into eight factors that issued by Ali et al., (2013) which are lecturers' attitudes; computer self-efficacy; gender; teaching experience; accessibility; technical support; technology characteristic; and administration support. Table 1 below shows the four point Likert scale used in the questionnaire. No mid-point Likert scale is used in the questionnaire as it can reduce the chance of response bias and commit to a certain position (Croasmun & Ostrom, 2011).

Table 1. The value of Likert scale

Responses	Ranks
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

3.3. Analysis and Results

From the demographic section, data on lecturers teaching experiences and teaching areas were collected. As shown in Fig. 1, the majority of respondents with 49% have six to nine years teaching experiences, 31% have two to five years, 15% have more than 10 years and 5 % have less than one years teaching experiences.

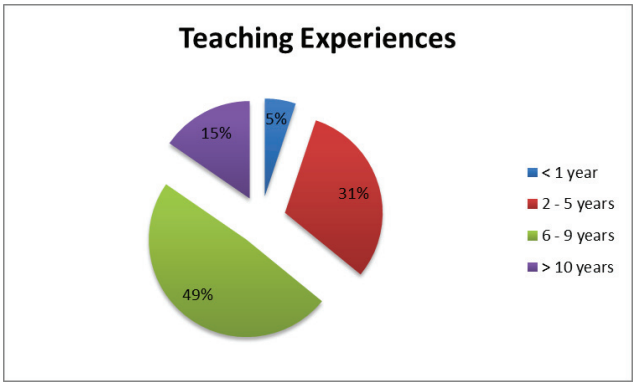

Fig.1. Respondents teaching experiences

Fig 2 shows the teaching areas of respondents which 26% of respondents are from Accountancy; 23% Landscape, 18% General studies; 18% Computer systems and support; and 15% of respondents are from Refrigeration and air conditioning technology teaching areas.

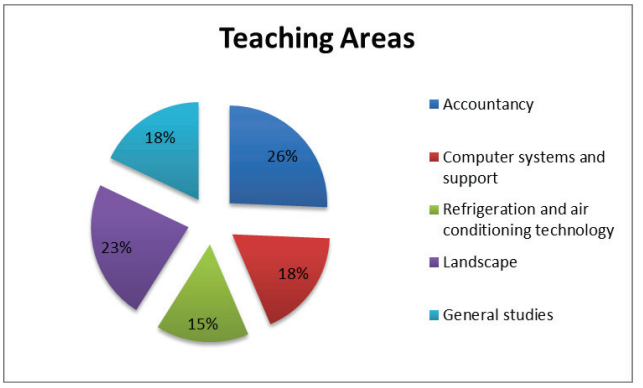

Fig.2. Respondents teaching areas

To measure the factors that influencing the utilization of educational technology, 30 items with four Point Likert-scales have been constructed. Table 2 below shows the means score for barriers that faced by lecturers which are technical support 2.55; administrator support 2.27; computer self-efficacy 1.98 and accessibility 1.98. Lecturers agreed that they are having technical support as barriers to utilize educational technology in their teaching practice. However, lecturers disagreed those others items such as administrator support, computer self-efficacy and accessibility of the educational technology have become the barriers for them to utilize such approaches in their teaching practices.

Table 2. Barriers

Barriers	Mean	Value of scale
Technical support	2.55	Agree
Administrator support	2.27	Disagree
Computer self-efficacy	1.98	Disagree
Accessibility	1.98	Disagree

Table 3 below shows details of the technical support barriers faced by lecturers which are lack of Internet access with the mean score of 2.78, lack of computer access at 2.69 and lack of expertise support at 2.17.

Table 3. Technical support barriers

Barriers	Mean	Value of scale
Lack of Internet access	2.72	Agree
Lack of computer access	2.64	Agree
Lack of expertise support	2.15	Disagree

However, lecturers are disagreed that administrator support is one of the barriers for them to utilize the educational technology in their teaching practices. Table 4 below shows details of the administrator support elements, where lack of internal training mean score 2.67, lack of utilization support 2.15 and less expose to the educational technology 2.00.

Table 4. Administrator support barriers

Barriers	Mean	Value of scale
Lack of internal training	2.67	Agree
Lack of utilization support	2.15	Disagree
Less expose to the technology	2.00	Disagree

Table 5 below shows that lecturers disagree that computer self-efficacy is one of the barriers for them to utilize educational technology in their teaching practices.

Table 5. Computer self-efficacy barriers

Barriers	Mean	Value of scale
Time constraint to explore	2.21	Disagree
Time constraint to search from Internet	2.00	Disagree
Time constraint to prepare activity	2.10	Disagree
Class management and control	1.79	Disagree
Self-confidence	1.82	Disagree
Knowledge on implementation	1.85	Disagree

Table 6 below shows that lecturers disagree that accessibility of the educational technology is one of the barriers for them to utilize educational technology in their teaching practices.

Table 6. Accessibility barriers

Barriers	Mean	Value of scale
Costing	2.00	Disagree
Resources not available	1.85	Disagree
No Internet access	1.85	Disagree

Table 7 below shows the lecturers perception towards the utilization of educational technology in their teaching practices.

Table 7. Lecturers' perception

Lecturers' perception	Mean	Value of scale
Enhance students' performance	3.33	Agree
Easy to interact with students	3.11	Agree
Students easy to understand	3.06	Agree
Increase student interest	3.25	Agree
Easy to achieve objectives	3.08	Agree
Diversifying learning activity	3.31	Agree
Fun learning environment	3.36	Agree
Student more focus	3.06	Agree
Easy to deliver material	3.33	Agree
Learning and teaching more manageable	3.19	Agree
Easy to discuss with other lecturer	3.06	Agree

4. Conclusion

Community colleges are preparing their students to become semi-professionals in the fields of engineering, accountancy, information technology & communication, hospitality, landscape and services (Raihan & Shamim, 2013). In order to prepare students with the skills needed in the industry, the utilization of educational technology is able to support rapid changes at the industrial demands.

Based on the findings, the administrator of the institution encourages lecturers to utilize the educational technology in their teaching practices. Moreover, lecturers also have positive perceptions that educational technology enhances and improves their teaching practices. However, the major barriers faced by lecturers in order to utilize the educational technology in their teaching practices are technical support. The institution should improve the Internet and computer facilities. These technical supports should tag along with the expertise support thus the educational technology can be fully utilized. Cooperation from institution management and lecturers is important to ensure that students have a high level of skills and knowledgeable (Nurul, Mohamad, Salam, & Bakar, 2014). The institution is also recommended to provide more training for lectures to sharpen their teaching skills in using educational technology, in spite of the lecturers have a high computer accessibility and computer self-efficacy. Thus, there are a big potential to fully utilize the educational technology in the community college if the institution improve the technical aspects. Indirectly, students' performance and skills can also be enhanced to meet the community colleges' aims.

References

Ali, G., A.Haolader, F., & Muhammad, K. (2013). The Role of ICT to Make Teaching-Learning Effective in Higher Institutions of Learning in Uganda. *International Journal of Innovative Research in Science, Engineering and Technology*, *2*(8), 4061–4073.

Arnett, T. (2013). Two Types of Online Learning. Retrieved from http://www.christenseninstitute.org

Chinien, C. (2003). *Analytical Survey: The Use if ICTs in Technical and Vocational Education and Training*.

Croasmun, J. T., & Ostrom, L. (2011). Using Likert-Type Scales in the Social Sciences. *Journal of Adult Education*, *40*(1), 19–22.

Dawley, L. (2007). *The Tools for Successful Online Teaching*. Information Science Publishing.

Dzakaria, H. (2012). Illuminating the Importance of Learning Interaction to Open Distance Learning (ODL) Success: A Qualitative Perspectives of Adult Learners in Perlis, Malaysia, 1–9.

Kalinga, E. A. (2008). *Development of an Interactive e-Learning Management System (e-LMS) for Tanzanian Secondary Schools*. Sweden: Blekinge Institute of Technology.

Luaran, J. @ E. (2011). Perkembangan, cabaran dan aplikasi teknologi maklumat dalam pengajaran dan pembelajaran di Malaysia. In *Konferensi Pendidikan Universiti Teknologi MARA – Universitas Pendidikan Indonesia, Bandung*.

Moeller, B., & Reitzer, T. (2011). *Integrating Technology with Student-Centered Learning*. *Education Development Center, Inc. (EDC)*. Quincy.

Mohamad, S. N. M. (2014). *Model for Online Teaching Tools Based on Interpersonal, Visual and Verbal Intelligence*. Universiti Teknikal Malaysia Melaka.

Nurul, S., Mohamad, M., Salam, S., & Bakar, N. (2014). Lecturers ' Perceptions and Attitudes Towards the UsageofOnline Learning at Polytechnic. *International Journal of Science Commerce and Humanities*, *2*(1).

Raihan, M. A., & Shamim, M. R. (2013). Emerging Educational Technologiesfor TVET to Boost Learning : Issues , Trends , and Horizons. *International Journal If Innovative Research in Science, Engineering and Techology*, *2*(7), 3213–3222.